MY FIRST NUMBER BOOK

THIELE - SAUBLE - OGLESBY

MY FIRST NUMBER BOOK OGLESBY

Leon De Groff

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FOR GRADES 2B AND 2A

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THE INTRODUCTION

It is a pleasure to introduce *My First Number Book* to teachers of arithmetic in Grade Two. For the experienced teacher it will be a very useful supplement to the informal learning about numbers and measures which she directs in connection with the activities of the classroom. For the teacher of less experience it will be not only this, but also a source of helpful suggestions for improving that informal learning itself.

It is advantageous in the first steps of arithmetic to have a rich and varied stock of devices or projects, interesting, instructive, and suitable for use under classroom conditions. The teaching of arithmetic has perhaps lagged behind the teaching of reading in this respect. *My First Number Book* contains many such devices. It is to be hoped that it will stimulate others who are concerned with arithmetic in the lower primary grades to increase the stock.

To those teachers who object to having children in Grade Two learn anything except reading from a book, it may be pointed out that it is not unreasonable for children to read about numbers, as well as to read about giants, ogres, fairies, and anthropomorphic animals. In general, the arguments against the use of a book about arithmetic in Grade Two

had their origin in the days when books about arithmetic ignored the psychology of childhood. Such arguments lose much of their force in the case of books which consider what children can learn and how they learn.

EDWARD L. THORNDIKE

Teachers College
Columbia University
June, 1927

THE PREFACE

It is a patent fact that the beginning books of our traditional three-book series in arithmetic have not provided a suitable foundation upon which to build a course in arithmetic. Most of the beginning arithmetic books are written for the third grade. The authors in so doing take for granted that the pupils have already acquired certain number concepts, habits, and understandings from their out-of-school experiences, and from the more or less undirected number work in the second grade. In most cases the arithmetical ability of pupils starting the third grade has been little more than the ability to count in rote fashion, record a few numbers, and know "by heart" certain addition and subtraction combinations. It is not surprising that an introduction to arithmetic which has not bridged the gap between the child's out-of-school experiences and the more exact school learning has in the past retarded the progress of many pupils throughout their elementary school years. It is the purpose of this book to remedy that condition.

With that idea in mind, the first exercises in *My First Number Book* were constructed to develop the recognized number concepts, i. e., series, collection, and orientation ideas of numbers. There is much evidence that mere rote counting which emphasizes the series idea of numbers does not prepare the pupils for addition and subtraction situations in which they must think of each item as a collection instead of a series of units. By orienting numbers with respect to other numbers, the pupil is given an organization of learning which makes the management of numbers easier.

The addition and subtraction processes are introduced through lessons labeled "Things to Do." These activities are planned to give the pupils basic experiences which involve the use of the process in concrete situations. For example, in the introduction of the addition idea instructions are given to show a number of blackboard erasers and then to drop them into a wastebasket. These are followed by instructions to show another set before dropping it into the wastebasket. The erasers are then counted and the combination involved recorded and emphasized. Other activities aiming to develop the basic idea of addition and the three types of subtraction are also given.

The authors recognize the fact that many pupils fail to connect the subtraction process with situations other than those of the "take-away" type. Investigation has shown that the subtraction situations of the additive and comparative type must also be met by pupils in order that they may manage satisfactorily the three types of subtraction situations. A variety of subtraction situations, therefore, were included in the book to insure a complete mastery of the three subtraction ideas.

Following the introduction of the process ideas through basic experience lessons, the combinations are introduced. It will be noted that the combinations introduced in any lesson appear at the bottom of the page. These were placed there because the authors believe in the "exposed answer" method of introducing combinations. In using this method the pupils, in working a given problem, refer to the set of combinations for the one giving the correct answer. By keeping correct impressions before the pupils during the learning period, bad habits of work such as finger counting, marking,

and similar habits will not be developed. It is suggested that charts including each set of combinations be made and placed before the pupils during the learning period. It will be found that through application work the easier combinations of any group will be learned. It will then be necessary to drill only on those combinations which were not learned through application.

Following the development of the process ideas of addition and subtraction and the simple combinations involved, are exercises which introduce arithmetical habits involved in column addition, adding and subtracting two-place numbers, zero difficulties, and similar problems. Lessons are also included in this book which aim to develop an arithmetical vocabulary involving such words as nearer, farther, greater, larger, more, less, and others of their kind. Because this book was intended primarily for second-grade pupils and retarded pupils of the third grade it does not include carrying in addition or borrowing in subtraction or any of the multiplication and division combinations.

The authors recognize the fact that the teaching of this book demands a linking up of the experiences of the pupils with the pictures and sets of directions. Each exercise represents a vital type of experience for which local adaptations must be made. In setting the stage, so to speak, for each concrete situation, certain reading difficulties will also be met. The following method of procedure is suggested:

First stimulate class discussion about the picture or illustration. Permit pupils to tell of similar situations within their own experiences. When a familiarity with the general situation has been developed, treat the exercise as a reading lesson.

New words must be singled out for drill and the meanings of expressions and constructions given. When this has been accomplished the pupils are ready to begin their arithmetical attack. This phase of the work was discussed in one of the preceding paragraphs.

Teachers should feel free to supplement the work included herein with other projects and drill exercises. If they give the meaningful type of instruction included in this book we are sure that pupils will obtain a real foundation for further work in arithmetic. Should this be accomplished, the instruction has been well worth while.

It is a pleasure to acknowledge appreciation of many timely suggestions given by second-grade teachers who gave this material a trial. The authors also desire to express their indebtedness to Miss Lena Shaw, Supervisor of Penmanship, Detroit Public Schools, for assistance in planning the lesson devoted to the writing of numbers.

C. L. THIELE
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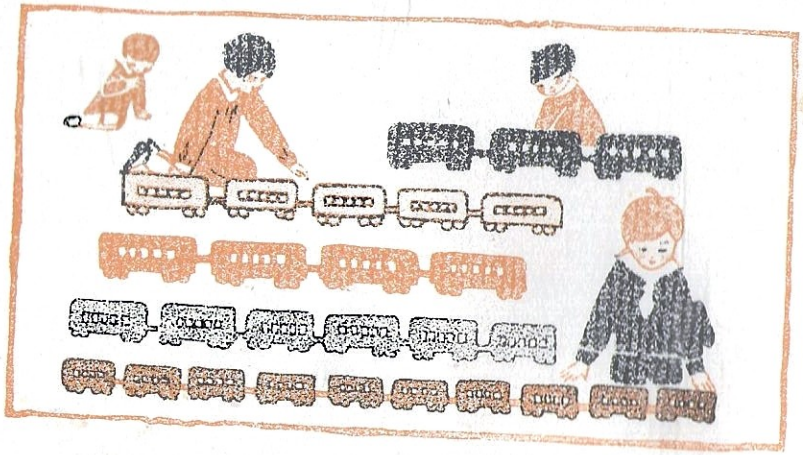
PART I—GRADE 2B

Catching a Bunny

One, two, three, four, five,
I caught a bunny alive.
Six, seven, eight, nine, ten,
I let him go again.

1, 2, 3, 4, 5,
I caught a bunny alive.
6, 7, 8, 9, 10,
I let him go again.

Playing with Trains



Do you like to play with a train?
The boys and girls in this picture do.
The big boy has . . . cars in his train.
The big girl has . . . cars in her train.
Find a train that has three cars.
The black train has . . . cars.
The red train has . . . cars.

One	Two	Three	Four	Five
1	2	3	4	5
Six	Seven	Eight	Nine	Ten
6	7	8	9	10

(Series idea)

Using Card Numbers

Make some little cards.
Number them from one to ten.
Put the right card where the dots are.

1. I have . . . feet.
2. My dog has . . . feet.
3. I have . . . fingers on one hand.
4. I have . . . fingers on both hands.
5. There are . . . windows in this room.
6. There are . . . doors in this room.
7. There are . . . children in this row.
8. There are . . . children in our family.
9. There are . . . chairs in this room.
10. There are . . . boys in this row.
11. There are . . . girls in this row.
12. I live . . . blocks from school.
13. I am . . . years old.
14. I have . . . toes.
15. I have . . . ears.
16. I have . . . nose.
17. I have . . . legs.

(Recognition of number symbols)

Things to Do

1. Get some erasers.
2. Play that the erasers are cars.
3. Put the erasers together to make a train.
4. Make a train with five cars in it.
5. Make a train with seven cars in it.
6. Draw a train with four cars in it.
7. Draw a train with six cars in it.
8. Draw a train with three cars in it.
9. Play you are the teacher.
10. Get eight books.
11. Give them to eight children.
12. Play you are having a birthday party.
13. Ask three boys to come.
14. Ask four girls to come.
15. Tell them how old you are.
16. Play you have a bank.
17. Put nine pennies in your bank.
18. Count them as you put them in.
19. Count your fingers.

(Series idea)

Playing with a Ball

1. What are these children doing?
2. Can you bounce a ball?
3. Can you bounce it and catch it?
4. See how long you can bounce it.
5. Say one, two, three, four as you catch it.
6. If you do not catch the ball, give it to another boy or girl.
7. Can you jump rope?
8. Play you are jumping rope.
9. Jump six times. Count as you jump.
10. Tell a little girl to jump eight times.
11. Tell a little boy to jump ten times.

(Series idea)

Can you count to 10?
We can count on paper.
This is the way we do it.

1 2 3 4 5 6 7 8 9 10

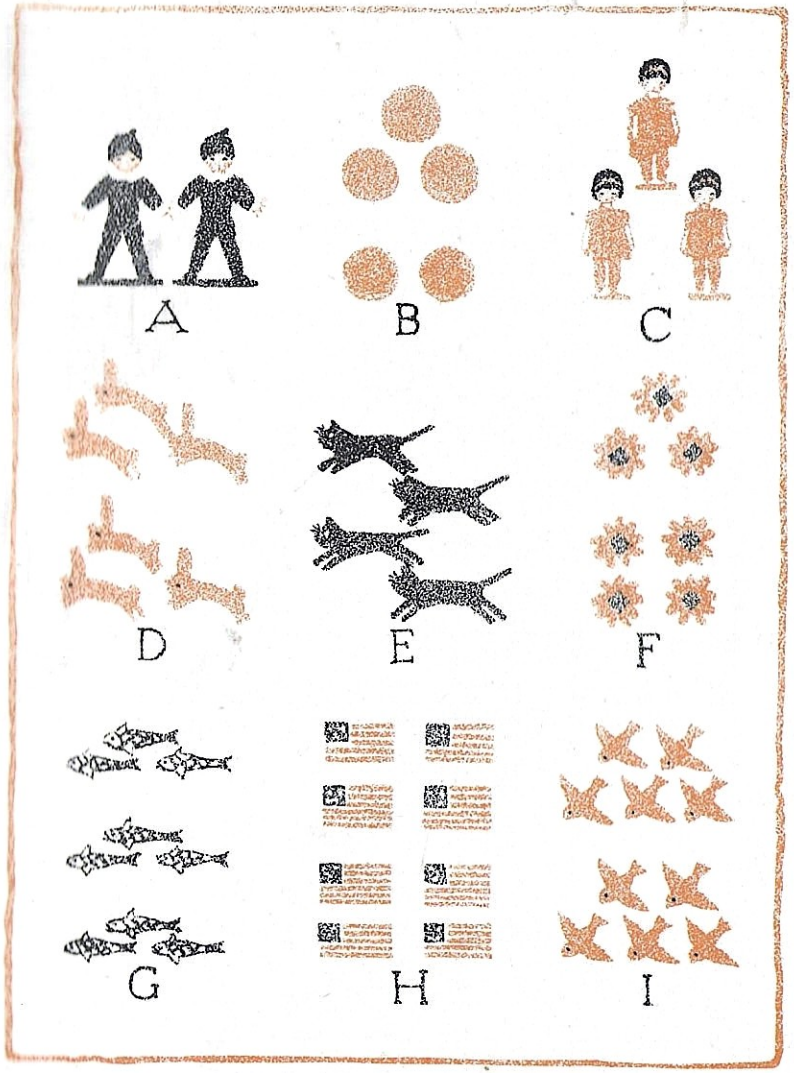
You will need to know how to make these numbers.

The heavy dot shows you where to begin.

Make the dotted part next.
Make the solid part last.
Make all the numbers sit on the line.
Make 3 lines of each number.

1 2 3 4 5 6 7 8 9 10

On the next page are pictures.
Which has 5 things in it?
See how quickly you can point to the right picture when your teacher calls the numbers.



(Collection idea)

Playing Dominoes

These children have some big dominoes.
They made their big dominoes
You may make some too.

There are some dominoes and some pieces of cardboard on the table.

Get a domino and a piece of cardboard.

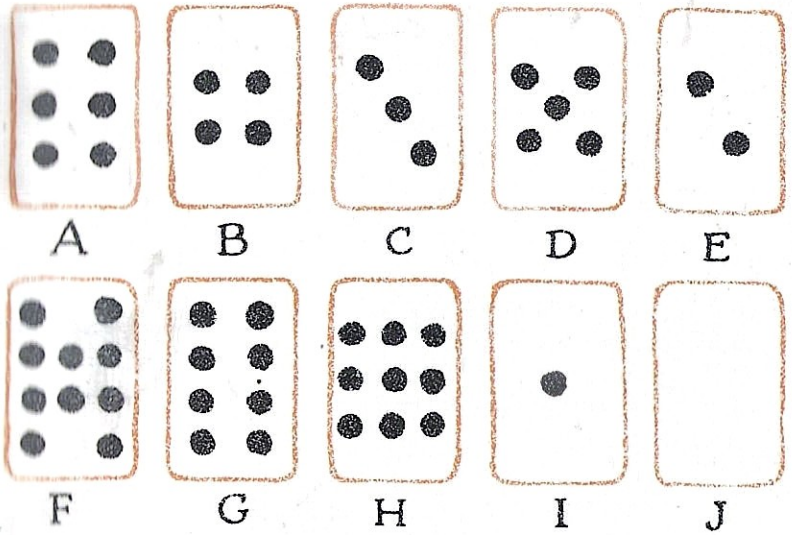
Use your black crayola to make dots on the cardboard.

Make your card into a large domino.

Make it just like the small domino you have.

Tomorrow you may play dominoes with your large domino cards.

(Collection idea)



1. Look at these dominoes.
2. Are they like the dominoes you made?
3. There are . . . dots on domino B.
4. There are . . . dots on domino H.
5. Domino I has . . . dot on it.
6. Domino A has . . . dots on it.
7. There are . . . dots on domino C.
8. There are . . . dots on domino G.
9. Domino F has . . . dots on it.
10. Domino J has . . . dots on it.

(Collection idea)

Making Number Books

These children are making number books.

You may make a number book too.
Get three pieces of paper and a pin.
Fold the paper to make a book
Pin it together in the fold.
Draw a picture for each number:

1 2 3 4 5 6 7
8 9 10

Under each picture, write the number.

Here are some things to draw:

balls birds trains hats rabbits
trees balloons dishes dolls houses

(Collection idea)

Counting to 31

1. Count as far as you can.
2. Write the numbers as far as you can.
3. Make 29 dots on your paper.
4. Put 25 play pennies in a pile on your desk.
5. Tell what numbers should go where the dots are:

a. 12 . . . 14 . . .
b. 21 . . . 23 . . .
c. . . . 26 . . . 28
d. 18 . . . 20 . . .
e. 15 18
f. 14 17
g. 20 23
h. 18 . . . 20 . . .
i. . . . 16 . . . 18
j. 27 . . . 29 . . .

6. Which would you rather have:
   a. 27 pennies or 29 pennies?
   b. 18 pieces of candy or 24 pieces of candy?
   c. 25 cookies or 30 cookies?
   d. 27 apples or 19 apples?
   e. 13 oranges or 20 oranges?
   f. 26 marbles or 16 marbles?

Do you know what is on this page?
Do you have one at home?
What is it for?
You can play a game with it.
Get some cardboard squares.
The teacher will call a number.
Find the number and cover it.
The teacher will call other numbers.

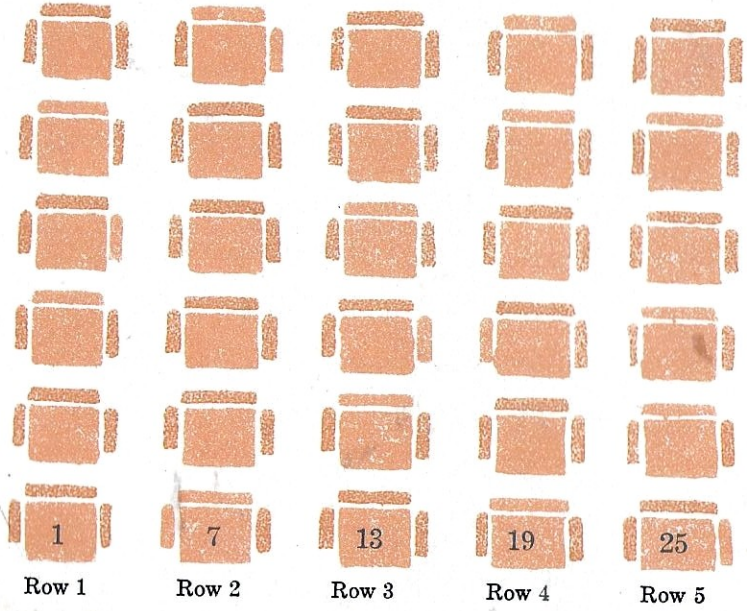
To the Teacher.—The work may be checked by a checker for each row.

(Recognition of numbers)

She will see if you are right.
What month is it now?
Make a calendar for it.
What day is it today?
Point to the date on the calendar.
Who has a birthday this month?
Point to it on the calendar.
Choose the best calendar.
Hang it up in the room.
Find the date every day.
Number 1 on the calendar is for Sunday.
Number 8 is for Sunday.
What is 2 for? 9?
What day comes after Monday?
What is 4 for?
What day comes after Wednesday?
What is 6 for? 7?
What is 10 for? 14?
What is 17 for? 27?

To the Teacher.—More exercises like those above may be provided by the teacher to make the pupils familiar with the calendar.

(Recognition of numbers)



This is the front of the theater.

(Orientation of numbers)

These children are playing theater.

There are 30 seats in this theater.

Only the front seats are numbered.

There is a number on each child's ticket.

Play that you are an usher.

Tell each of these children in which row he sits.

Can you find their seats?

These are the names of the children and their seat numbers.

Name	Seat No.	Name	Seat No.
Jack	10	Harry	14
Helen	24	Jean	30
Mary	18	Paul	5
Frank	6	Harold	17
Jane	15	Dick	4
Tom	23	Dorothy	16
Sally	29	James	28
Fred	11	Marion	21

(Orientation of numbers)

Things to Do

1. Put six erasers on your teacher's desk.
2. Put a wastebasket on a chair in the front of the room.
3. Ask a girl to drop 3 erasers into it.
4. Ask a boy to drop 2 erasers into it.
5. How many erasers are there in the basket now?
6. Count the number of erasers in the basket to see if you were right.
7. Three erasers and two erasers are . . . erasers.
8. Take all of the erasers out of the basket.
9. Ask a girl to drop 2 erasers into it.
10. Ask a boy to drop 4 erasers into it.
11. How many erasers are there in it?
12. Count to see if you were right.
13. Two erasers and four erasers are . . . erasers.

(Addition idea)

1. Take out your play pennies.
2. Hide 4 pennies under your hand.
3. Hide 2 more pennies under your hand.
4. There are . . . pennies under your hand.
5. Count to see if you were right.
6. 4 pennies and 2 pennies are . . . pennies.
7. Put 6 pennies under your hand.
8. Hide 2 more pennies under your hand.
9. You now have . . . pennies under your hand.
10. Count to see if you were right.
11. Six pennies and two pennies are . . . pennies.
12. Hide 4 pennies under your hand.
13. Hide 4 more pennies under your hand.
14. You now have . . . pennies under your hand.
15. Count to see if you were right.
16. Four pennies and four pennies are . . . pennies.

(Addition idea)

Playing a Game

1. . . . children are playing in the yard.
2. Who is just coming in the gate?
3. 6 children and one more will make . . . .
4. A little boy is coming to play too.
   7 children and one more will make . . . .
5. A big boy is coming to play too.
   8 children and one more will make . . . .
6. Do you see a big girl coming to play?
   9 children and one more will make . . . .
7. Soon there will be . . . children playing.

6	7	8	9
1	1	1	1
7	8	9	10

(Addition idea)

1. I put 6 pennies and 2 pennies into my bank. I then have . . . pennies in my bank.
2. Jack puts 4 pennies and 2 pennies into his bank. He then has . . . pennies in his bank.

6 and 2 are . . . 4 and 2 are . . .

Use your pennies to find these sums:

3	3	4	5	6	4
2	3	2	2	2	4
5	6	6	7	8	8

To the Teacher.—The children should always be taught to refer to the combinations with their answers at the bottom of the page to find the correct numbers to put in the blanks above. This will help to eliminate finger counting. Use this method in introducing new combinations.

(Addition—group 1)

Playing Store

Do you ever play store?
What do you have to buy and sell?
Here are some things to buy:

1. An orange costs . . . cents.
2. A banana costs . . . cents.
3. You pay . . . cents for a cookie.
4. You pay . . . cents for a stick of candy.
5. For 3 cents you can buy a . . . .
6. For 6 cents you can buy an . . . .
7. What can you buy for 4 cents?

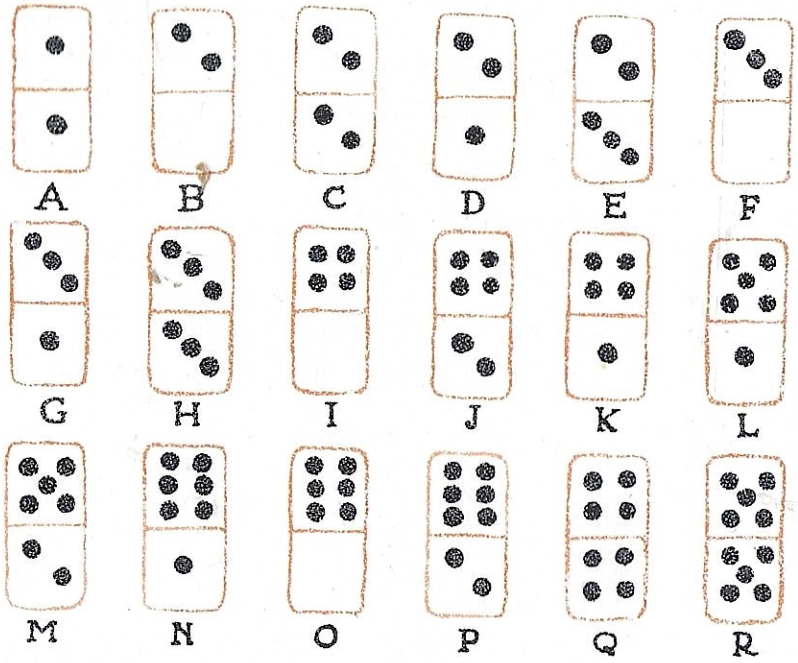
(Reading prices)

Tell how many cents these things cost:

1. A banana and a stick of candy.
2. A stick of candy and a cookie.
3. An apple and a stick of candy.
4. An orange and a banana.
5. An ice cream cone and a banana.
6. A stick of gum and a candy cane.
7. Two cookies.
8. A banana and a stick of gum.
9. A stick of gum and an orange.
10. A cookie and a banana.
11. An apple and a candy cane.
12. A stick of gum and an ice cream cone.

2	2	2	4	5	6	3	4
$\frac{1}{3}$	$\frac{2}{4}$	$\frac{3}{5}$	$\frac{2}{6}$	$\frac{2}{7}$	$\frac{2}{8}$	$\frac{3}{6}$	$\frac{4}{8}$
1	1	1	1	1	1	1	3
$\frac{2}{3}$	$\frac{7}{8}$	$\frac{4}{5}$	$\frac{3}{4}$	$\frac{6}{7}$	$\frac{8}{9}$	$\frac{5}{6}$	$\frac{2}{5}$

(Addition—group 1)



1	2	3	4	5	6	7
1	1	1	1	1	1	1
2	3	4	5	6	7	8

8	9	2	2	2	2	3
1	1	2	3	4	5	3
9	10	4	5	6	7	6

(Addition — group 1)

1. There are . . . dots on domino A.
   (1 and 1 are 2. This may be written: 1+1=2)
2. There are . . . dots on domino C. 2+2=
3. There are . . . dots on domino J. 4+2=
4. On domino M there are . . . dots. 5+2=
5. On domino E there are . . . dots. 2+3=
6. On domino P there are . . . dots. 6+2=
7. Which one shows that 2 and 2 are 4?
8. Which one shows that 5 and 5 are 10?
9. Which one shows that 4 and 2 are 6?
10. Which one shows that 5 and 2 are 7?
11. Domino . . . shows that 4 and 4 are 8.
12. Domino . . . shows that 6 and 2 are 8.
13. Domino . . . shows that 2 and 3 are 5.
14. Domino . . . shows that 3 and 3 are 6.
15. Which one shows that 2 and 0 are 2?
16. Which one shows that 4 and 0 are 4?

4	5	2	3	4	5	6
4	5	0	0	0	0	0
8	10	2	3	4	5	6

(Addition — group 1)

Meaning of "Add" and "Sum"

Jack pays 2 cents for an eraser and 3 cents for a pencil. For both he pays . . . cents. We find how much he pays for both by thinking 2 cents and 3 cents are 5 cents.

When we think 2 and 3 are 5 we are adding. We say that "5" is the sum.

First study these sums.

Then cover the sums with a piece of paper and see if you can say them:

6	9	5	0	5	3	4	3
2	1	5	9	2	1	0	3
8	10	10	9	7	4	4	6
1	0	4	2	8	3	4	2
8	7	2	2	1	2	4	5
9	7	6	4	9	5	8	7
2	7	3	2	8	2	6	1
3	1	3	4	0	6	1	5
5	8	6	6	8	8	7	6

To the Teacher.—A permanent reference chart may be made following the introduction and study on each group of combinations. The chart should be placed in a conspicuous place for reference at any time except testing. See pages 130–132 for combination group.

(Addition—group 1)

1. Helen had 3 pieces of candy. Her mother gave her 3 more pieces. Helen then had . . . pieces of candy.
2. Jack had 5 pennies. His mother gave him 2 pennies for going to the store. Jack then had . . . pennies.
3. Harry had 6 marbles. On his way to school he found 2 more marbles. How many marbles did he have then?
4. Mary walked 4 blocks to school in the morning and 4 blocks home for lunch. Altogether she walked . . . blocks.
5. Helén ate three cookies for lunch and two cookies for dinner. Altogether she ate . . . cookies.
6. Mary went to the store. She bought a pencil for 2 cents and a tablet for 4 cents. She paid . . . cents for the pencil and the tablet.
7. Make up a story about 4 and 4.

Timed Test

Ask your teacher to time you.

Add these numbers. Try to write the sums in two minutes:

3	5	2	9	4	1	3	8
2	5	6	1	4	5	3	1
2	4	1	2	1	6	5	2
2	2	7	3	6	2	1	4
1	5	7	1	1	2	6	4
4	2	1	3	9	5	1	1

1. Harry has 4 blue marbles and 2 green marbles. How many marbles has he?
2. Jack's mother gave him 2 cents and his father gave him 5 cents. How much money did Jack have altogether?

To the Teacher. — The teacher may have the pupils fold a piece of paper and lay it below the examples so that it will not be necessary for the children to copy them.

The teacher should return to this page from time to time for review of the combinations of group 1. A chart made as directed on page 34 may also be used.

(Addition — group 1)

Things to Do

1. Get four erasers.
2. Give one eraser to your teacher.
3. How many erasers have you left?
4. Write on the board "1 from 4 leaves 3."
5. Get six pieces of chalk.
6. Give a little girl one piece of chalk.
7. How many pieces of chalk have you left?
8. Write on the board "1 from 6 leaves 5."
9. Get five books.
10. Give one book to a little boy.
11. How many books have you left?
12. Write on the board "1 from 5 leaves 4."
13. Get seven pieces of paper.
14. Give one piece of paper away.
15. How many pieces of paper have you left?
16. Write on the board "1 from 7 leaves 6."
17. Get eight pencils.
18. Give two pencils to a little boy.
19. How many pencils have you left?
20. Write on the board "2 from 8 leaves 6."

(Subtraction idea — take away)

1. Get 3 pieces of chalk out of the box.
2. Give the 3 pieces of chalk to a boy.
3. How many pieces have you left?
4. Write on the board "3 from 3 leaves 0."
5. Take 5 pennies out of your envelope.
6. Give the 5 pennies to a little girl.
7. How many pennies have you left?
8. Write on the board "5 from 5 leaves 0."
9. Will 4 children come to the desk?
10. These 4 children go out into the hall.
11. How many children are left in the front of the room?
12. Write on the board "4 from 4 leaves 0."
13. John had 2 pieces of candy. John ate 2 pieces of candy. How many pieces of candy did John have left?
14. Write "2 from 2 leaves 0."

To the Teacher.— Teacher and children should perform the above activities.

1. Empty all your pennies in a pile on your desk.
2. Put seven pennies under your hand.
3. Now take away two pennies.
4. There are . . . pennies left under your hand.
5. Count, to see if you were right.
6. Put five pennies under your hand.
7. Take away two pennies.
8. How many pennies are under your hand now?
9. Count, to see if you were right.
10. Put four pennies under your hand.
11. Take away two pennies.
12. How many pennies are left?
13. Count, to see if you were right.
14. Put six pennies under your hand.
15. Take away two pennies.
16. There are . . . pennies left.
17. Count, to see if you were right.

To the Teacher.—Each child in the room should perform the above activities.

(Subtraction idea—take away)

Taking Away Things

Tell how many things are left if you:

1. Have 8 cookies and eat 2.
2. Have 7 pieces of candy and give away 1.
3. Have 9 apples and eat 1.
4. Have 5 rabbits and 2 run away.
5. Have 3 marbles and lose 3.
6. Have 4 dolls and break 1.
7. Have 5 cents and spend 5 cents.
8. Have 4 pencils and sell 4.
9. Have 5 oranges and eat 1.
10. Have 6 sandwiches and eat 2.
11. Have 5 cents, buy a pencil for 3 cents.

2	3	4	5	6	7	8	9
$\frac{1}{1}$	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{7}$	$\frac{1}{8}$
3	4	5	6	8	3	4	5
$\frac{2}{1}$	$\frac{2}{2}$	$\frac{2}{3}$	$\frac{2}{4}$	$\frac{2}{6}$	$\frac{3}{0}$	$\frac{4}{0}$	$\frac{5}{0}$

To the Teacher.—The children may obtain the answers to the above questions by referring to the subtraction combinations at the bottom of this page.

(Subtraction idea—take away)

Tell how many things are left if you:

1. Have 2 pieces of cake and eat 2 pieces.
2. Have 6 eggs in a bag and break 3.
3. Have 8 oranges and 4 are eaten for breakfast.
4. Have 1 ball and lose 1 ball.

1 from 10 leaves 9
1 from 9 leaves 8
1 from 8 leaves . . .
1 from 7 leaves . . .
1 from 6 leaves . . .
1 from 5 leaves . . .
1 from 4 leaves . . .
1 from 3 leaves . . .
1 from 2 leaves . . .
1 from 1 leaves . . .
2 from 2 leaves . . .
3 from 3 leaves . . .
4 from 4 leaves . . .

2 from 8 leaves 6
2 from 7 leaves . . .
2 from 6 leaves . . .
2 from 5 leaves . . .
2 from 4 leaves . . .
2 from 3 leaves . . .
3 from 5 leaves . . .
3 from 6 leaves . . .
5 from 5 leaves . . .
4 from 6 leaves . . .
5 from 7 leaves . . .
6 from 8 leaves . . .

Review Problems

1. There were 8 children at a party and 4 went home. That left . . . children.
2. Harry had 6 marbles. He found 2 more marbles. How many marbles did Harry have then?
3. Jack read 3 pages in his book today and 3 pages yesterday. Altogether Jack read . . . pages on both days.
4. Helen had 5 apples in a bag. She gave away 2 apples. How many apples did she have left?
5. Jack had 5 marbles. He played a game of marbles with Tom. After the game he gave Tom 3 marbles. How many marbles did he have left?
6. Mary had 2 pieces of candy. She ate two pieces of candy. Mary had . . . pieces left.
7. Tom had 7 pennies in his pocket. He lost 5 pennies. That left . . . .

Tell what number is left if you take the lower number away from the upper number:

8	3	2	5	2	8	6	8
6	3	0	4	2	0	4	2
9	8	6	6	3	4	4	5
0	1	1	5	0	1	3	0
4	3	5	4	8	8	1	5
2	1	2	0	4	7	0	5
9	7	7	5	3	6	6	5
8	0	6	3	2	0	3	1
6	2	9	1	7	4	7	7
2	1	1	1	2	4	5	1

To the Teacher.—Suggest to the children that they find answers on the subtraction chart made as directed on page 34.

(All subtraction in group 1)

Finding How Many More

Which plate has more cookies on it?
How many more?

Which boy has more balloons?
How many more?

Which girl has more blocks?
How many more?

Which vase has more flowers in it?
How many more?

Which dish has more apples in it?
How many more?

Which pile has more books?
How many more?

na pag

Tell the missing numbers:

3	6	4	3	7	5	4	2
?	?	?	?	?	?	?	?
4	8	5	5	8	7	8	6
?	?	?	?	?	?	?	?
2	1	2	8	6	5	4	3
5	6	4	9	8	7	6	5
4	2	4	3	2	2	1	1
4	5	2	3	3	6	8	6
?	?	?	?	?	?	?	?

Write the sums in 2 minutes:

6	9	2	5	1	0	4	2
2	0	5	5	8	6	2	3
4	0	7	2	3	2	6	8
4	8	1	6	2	2	0	1
5	3	2	5	0	1	5	1
2	3	4	1	9	6	0	9

A Toy Store

You can buy these things at a toy store.

We can write 5 cents this way—5¢.

1. A book costs . . . ¢. A ball costs . . . ¢.
2. You can buy a . . . for 9¢.
3. A horn costs . . . ¢. A doll costs . . . ¢.
4. You pay . . . ¢ for a top.

(Reading price lists)

1. A ball costs . . . ¢ more than an eraser.
2. A doll costs . . . ¢ more than a pencil.
3. A tablet costs . . . ¢ more than a pencil.
4. A horn costs . . . ¢ more than a ruler.

Tell how much more you pay for:

5. A drum than for a pencil.
6. A tablet than for a ruler.
7. A drum than for a blotter.
8. A horn than for an eraser.
9. A book than for a pencil.
10. A book than for a blotter.
11. A ball than for a penholder.
12. A top than for a pencil.
13. A book than for a top.
14. A doll than for a blotter.

Tell how much you pay for:

15. A tablet and a pencil.
16. A horn and a penholder.
17. An eraser and a ruler.

(Subtraction—comparative)

What are these boys playing?
Do you like to play with marbles?
How many marbles have you?

1. Frank has 5 marbles. Sam has 2. Frank has . . . more marbles than Sam.
2. Tom has 4 marbles. James has 8. James has . . . more marbles than Tom.
3. Harry has 6 marbles. Fred has 3. Harry has . . . more marbles than Fred.
4. Sam has 2 marbles. Tom has 4. Tom has . . . more marbles than Sam.

5. Tom has 4 marbles. Harry has 6. Harry has . . . more marbles than Tom.
6. James has 8 marbles. Harry has 6. James has . . . more marbles than Harry.
7. Sam has 2 marbles. Harry has 6. Harry has . . . more marbles than Sam.
8. James has 8 marbles. Frank has 9. Frank has . . . more marble than James.
9. James has 8 marbles. Sam has 2. James has . . . more than Sam.
10. Frank has 7 blue marbles and 2 green marbles. He has . . . more blue marbles than green marbles.

Tell the missing numbers:

6	4	5	4	2	2	8	3
?	?	?	?	?	?	?	?
8	6	7	8	8	4	9	6

Review

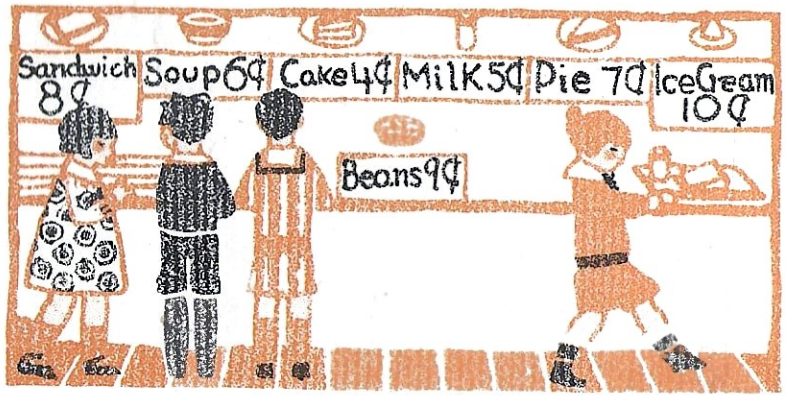
1. Helen is 7 years old. Her little brother is 2 years old. Helen is . . . years older than her brother.
2. Jack has 4 marbles. Harry has 8. Harry has . . . more marbles than Jack.
3. Tom had 8 pieces of candy. He gave 2 pieces to his sister. Tom then had . . . pieces of candy left.
4. Dorothy has 2 dolls and Helen has 5 dolls. How many more dolls has Helen than Dorothy?
5. Sally read 3 pages in her book. Jean read 6 pages in her book. Jean read . . . pages more than Sally.
6. Jack earned 5¢ on Monday and 2¢ on Tuesday. On both days Jack earned . . . cents.
7. Mary paid 7¢ for a book and 2¢ for a pencil. She paid . . . ¢ for both.

(Subtraction — comparative)

Things to Do

1. Take out your box of pennies.
2. Put three pennies under your hand.
3. How many more pennies must you put under your hand to have 5 pennies?
4. 3 pennies and . . . more make 5.
5. 2 pennies and . . . more pennies make 6 pennies.
6. 6 pennies and . . . more pennies make 8 pennies.
7. 7 pennies and . . . more pennies make 9 pennies.
8. 5 pennies and . . . more pennies make 10 pennies.
9. 3 pennies and . . . more pennies make 6 pennies.
10. 2 pennies and . . . more pennies make 4 pennies.
11. 2 pennies and . . . more pennies make 5 pennies.
12. 8 pennies and . . . penny make 9.

(Subtraction — additive — group 1)



These children are buying lunches.
Have you enough money to buy a lunch?

1. Play that you have 5¢. You need . . . ¢ more to buy a bowl of soup.
2. Mary has 4¢. She needs . . . ¢ more to buy a piece of pie.
3. Jack has 3¢. He needs . . . ¢ more to buy a glass of milk.
4. Tom has 4¢. He needs . . . ¢ more to buy a sandwich.
5. Helen has 5¢. She needs . . . ¢ more to buy some ice cream.

6. Jim has 2¢. He needs . . . ¢ more to buy a piece of cake.
7. Harry has 7¢. He needs . . . ¢ more to buy some beans.
8. Sally has 8¢. She bought a bowl of soup. She had . . . ¢ left.
9. Dorothy had 7¢. She bought a glass of milk. She had . . . ¢ left.
10. John had 8¢. He bought a piece of cake. He had . . . ¢ left.
11. Sam had 10¢. He bought a glass of milk. He had . . . ¢ left.
12. Play that you have 9¢. You can buy a sandwich and have . . . ¢ left.
13. Play that you have 8¢. You can buy a piece of pie and have . . . ¢ left.
14. Dick has 10¢. He can buy some beans and have . . . ¢ left.
15. Tom has 4¢. How much more money does he need to buy a sandwich?

(Subtraction — additive and take away)

1. Mary went to the store. She bought a pencil for 3¢ and an eraser for 2¢. How much did she pay for both?
2. Jack had 10¢. He spent 2¢ for a top. How many cents did he have left?
3. Helen has 5¢. She wants to buy a book. The book costs 10¢. How many more cents does Helen need to buy the book?
4. An orange costs 4¢ and an ice cream cone costs 5¢. How much more does an ice cream cone cost than an orange?
5. Mary has 5¢. She wants to buy a doll. The doll costs 7¢. How many more cents does Mary need to buy the doll?
6. A banana costs 4¢ and an orange costs 6¢. If you have 5¢, can you buy an orange or a banana?

(Combinations—group 1)

7. Jack spent 6¢ for a horn and 8¢ for a drum. How much more did the drum cost than the horn?
8. If you have 7¢ and spend 2¢ for a top, how much money have you left?
9. Sam bought a ball for 5¢ and a pencil for 2¢. What did he pay for both?
10. Harry had 6 marbles. He lost 2. How many marbles did he have left?
11. Mary is 6 years old. Her little brother is 4 years old. How much older is Mary than her brother?
12. Jim earned 8¢ working for his mother. He found 1¢. How many cents did Jim have then?
13. Jane invited 8 children to her birthday party. Only 7 children came to the party. How many did not come?
14. Mary has 3¢. She wants to buy a 5¢ pencil. She needs . . . ¢.

(Addition and subtraction)

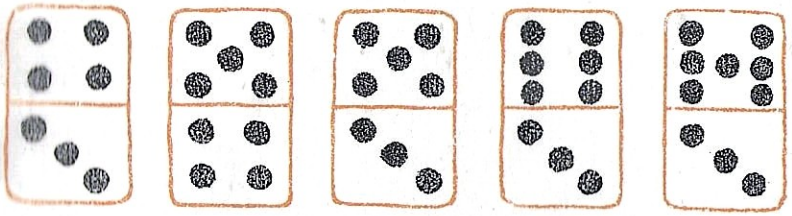
Writing Missing Numbers

Copy the examples below and write the missing numbers:

1 ? 2	2 ? 4	6 ? 8	3 ? 6	8 ? 8	2 ? 7	6 ? 7	4 ? 6
4 ? 8	5 ? 5	2 ? 5	4 ? 5	3 ? 5	1 ? 7	5 ? 7	4 ? 4
2 ? 4	1 ? 6	0 ? 2	2 ? 8	1 ? 5	1 ? 9	0 ? 7	5 ? 6
1 ? 1	1 ? 8	2 ? 3	7 ? 7	1 ? 4	3 ? 5	3 ? 4	6 ? 6

1. Can you make up a story about 8¢ and 4¢ are 12¢?
2. Make a story about 6¢ and 2¢ are 8¢.
3. Do the same for 2¢ and 5¢ are 7¢.

(All combinations of group 1)



1. Tell how many dots there are on domino A.
   Say "4 and 3 are . . . ." Do this for each domino.
2. How many dots are there on domino D?
3. On domino B there are . . . dots.
4. On domino E there are . . . dots.
5. Domino C has . . . dots on it.
6. Which tells 5 and 3 are 8?
7. Make a domino that will tell 7 and 2 are 9.

4 3 7	5 3 8	6 3 9	7 3 10	5 4 9	7 2 9

To the Teacher.—The directions given for the use of page 29 apply to the work on this page also.

These children are reading in the library

1. Jack read 3 pages today and 4 pages yesterday. On both days Jack read . . . pages in his book.
2. Helen read 3 pages in her book today and 6 pages yesterday. On both days Helen read . . . pages in her book.
3. On Monday Fred read 3 pages and on Tuesday he read 5 pages. On Monday and Tuesday Fred read . . . pages.

To the Teacher.—The combinations in group 2 are new. The pupils should be taught to refer to the combinations with their answers given on page 59 to find the correct numbers to put in the blanks above. This will help to eliminate finger counting.

4. Today Mary read 3 pages and yesterday she read 7 pages. On both days she read . . . pages in her book.
5. Jim read 7 pages in one book and 2 pages in another book. Altogether he read . . . pages.
6. Sally read 5 pages in one book and 2 pages in another book. Altogether she read . . . pages.
7. Dick read 2 pages at home and 7 pages at the library. How many pages did he read altogether?
8. Jack read 6 pages in his old book and 2 pages in his new book. How many pages did he read altogether?

4	5	6	7	4	3	3	2
$\frac{3}{7}$	$\frac{3}{8}$	$\frac{3}{9}$	$\frac{3}{10}$	$\frac{5}{9}$	$\frac{4}{7}$	$\frac{5}{8}$	$\frac{7}{9}$

Cover the answers and then see if you can give them.

Having Ice Cream

What are these children doing?

How many children are at each table?

How many children are there here altogether?

We find out in this way:

We think 3 children and 4 children make 7 children. Seven children and 2 children make 9 children.

We write it like this:

$$\begin{array}{r} 3 \\ 4 \\ 2 \\ \hline 9 \end{array}$$

(Column addition — groups 1 and 2)

Adding Three Numbers

1. Jack had 4¢ in his bank. His mother gave him 3¢ and his father gave him 2¢. How much money did he have?
2. Tom had 3 marbles. Jack gave him 4 marbles and he found 2. Tom then had . . . marbles altogether.
3. Dick spent 5¢ for an ice cream cone, 2¢ for a piece of candy, and 1¢ for some gum. Altogether Dick spent . . . ¢.
4. Frank earned 3¢, his brother gave him 4¢, and he found 1¢. Altogether Frank had . . . ¢.

What do these numbers say? Make up word problems about these numbers:

2	3	2	3	4	2	3	4
3	1	4	2	2	5	5	3
2	2	3	2	1	3	1	2
7	6	9	7	7	10	9	9

(Column addition — groups 1 and 2)

Things to Draw

1. Draw a picture of three boys.
2. Give one boy 2 balloons.
3. Give another boy 4 balloons.
4. Give the other boy 1 balloon.
5. Tell how many balloons all the boys have.
6. Write 2 and 4 and 1 are . . . .
7. Draw a picture of three doll beds.
8. Put 2 dolls in the first bed.
9. Put 1 doll in the second bed.
10. Put 3 dolls in the third bed.
11. Tell how many dolls there are altogether.
12. Write 2 and 1 and 3 are . . . .
13. Draw a picture of 3 little girls.
14. Give one girl 4 flags.
15. Give another girl 3 flags.
16. Give the other girl 2 flags.
17. Tell how many flags all the girls have.
18. Write 4 and 3 and 2 are . . . .

(Column addition)

1. Draw a picture of three vases.
2. Put 4 flowers in the first vase.
3. Put 2 flowers in the second vase.
4. Put 3 flowers in the third vase.
5. Tell how many flowers there are altogether.
6. Write 4 and 2 and 3 are . . . .
7. Draw a picture of three wagons.
8. Put 1 teddy bear in the first wagon.
9. Put 4 teddy bears in the second wagon.
10. Put 2 teddy bears in the third wagon.
11. Tell how many teddy bears there are in all 3 wagons.
12. Write 1 and 4 and 2 are . . . .
13. Draw a picture of three tables.
14. Put 4 plates on the first table.
15. Put 2 plates on the second table.
16. Put 2 plates on the third table.
17. How many plates are on the 3 tables?
18. Write 4 and 2 and 2 are . . . .

Telling Missing Numbers

Tell the missing numbers:

5	3	4	3	2	5	4	3
?	?	?	?	?	?	?	?
9	10	7	8	9	8	9	7
5	8	2	6	8	3	7	1
?	?	?	?	?	?	?	?
10	9	5	8	8	4	8	9
4	6	5	3	2	2	3	2
?	?	?	?	?	?	?	?
8	6	5	4	8	6	6	7

Timed test.

Try to give the sums in 1 minute:

5	3	4	3	5	4
4	7	3	5	3	5
9					
6	3	7	3	2	7
3	4	2	6	7	3

To the Teacher.—A permanent chart for group 2, addition, may now be made.

1. There were 8 children at a party. Three went home. There were . . . left.
2. Mary had 9 pieces of candy. She gave her little brother 2 pieces. How many pieces of candy did Mary have left?
3. Jack had 9 pennies in his bank. He took out 5 pennies. He then had . . . pennies left in his bank.
4. Mary's mother bought 9 oranges. Six oranges were eaten for breakfast. There were . . . oranges left.
5. Nine children were invited to a party. Three children could not come. How many children came to the party?
6. Harry had 8 stamps. He gave away 5 stamps. How many did he have left?

9	8	8	9	9	9	9	10
2	5	3	6	3	5	4	7
7	3	5	3	6	4	5	3

To the Teacher.—In this introduction of subtraction problems, have the pupils refer to the facts at the bottom of the page to find the correct answers.

Timed Test

See if you can write the answers to these combinations in 2 minutes:

3	4	3	0	4	7	2	7
4	5	3	5	4	3	2	1
5	8	5	2	3	4	4	5
3	2	4	6	7	2	3	5
2	9	2	1	4	6	1	2
3	1	7	6	0	3	8	5

1. Mary had 4 apples in her basket and Jack gave her 3 more apples. Mary then had . . . apples.
2. Tom had some new roller skates. He skated 5 blocks on Monday and 4 blocks on Tuesday. On the two days he skated . . . blocks.
3. Helen had 6 pennies in her bank. She put in 3 more pennies. She then had . . . pennies in her bank.

(Addition — group 2. Review — group 1)

You can buy these things at a lunch room:

Glass of milk 5¢	Piece of candy 2¢
Sandwich 8¢	Orange 3¢
Bowl of soup 6¢	Dish of beans 7¢
Piece of cake 4¢	

1. You have 9¢. You can buy a glass of milk and a . . . .
2. You have 8¢. You can buy a bowl of soup and a . . . .
3. You have 9¢. You can buy a piece of cake and a . . . .
4. For 10¢ you can buy some beans and an . . . .
5. For 8¢ you can buy a glass of milk and an . . . .

Tell the missing numbers:

2	3	4	3	5	?	?	?	?	?
?	?	?	?	?	5	6	7	7	4
9	7	9	8	9	8	9	10	9	7

(Subtraction — group 2)

What are these children doing?

Can you jump rope? How many times can you jump without missing?

1. Mary can jump 10 times without missing. Tom can jump 7 times. Mary can jump . . . times more than Tom.
2. Jean can jump 4 times. Jim can jump 9 times. Jim can jump . . . times more than Jean.
3. Tom can jump 7 times. Dorothy can jump 3 times. Tom can jump . . . times more than Dorothy.

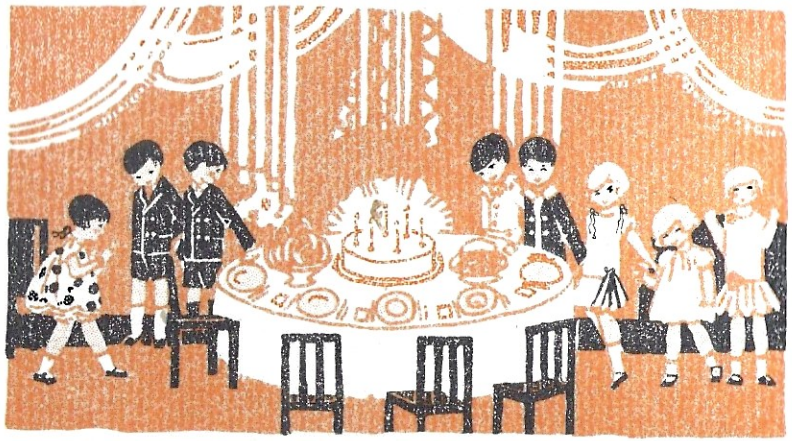
4. Dorothy can jump 3 times without missing. Jim can jump 9 times. Jim can jump . . . times more than Dorothy.
5. Tom can jump 7 times. Jim can jump 9 times. Jim can jump . . . times more than Tom.
6. Sally can jump 5 times without missing. Helen can jump 8 times. Helen can jump . . . times more than Sally.
7. Mary can jump 10 times. Dorothy can only jump 3 times. Mary can jump . . . times more than Dorothy.
8. Frank can jump 6 times without missing. Jim can jump 9 times. Jim can jump . . . times more than Frank.

Cover the answers and see how many you know:

10	9	9	7	9	10	8	9
7	3	7	3	4	3	5	6
3	6	2	4	5	7	3	3

(Comparative subtraction — group 2)

A Birthday Party



1. Mary is having a birthday party.
2. There are . . . children at the party.
3. Mary has 4 oranges. She needs . . . more oranges to give each child one.
4. Mary has 6 bananas. She needs . . . more to give each child one.
5. Mary has 7 little cakes. She needs . . . more cake to give each child one.
6. How old do you think Mary is?

5 and . . . are 10. . . . and 4 are 8.
6 and . . . are 8. . . . and 2 are 7.
4 and . . . are 6. . . . and 3 are 6.

(Subtraction — additive)

Taking Away Numbers

Tell what number is left if you take the lower number from the upper number. Try to say them all in 2 minutes:

9	10	9	8	9	8	5	8
2	3	5	3	3	2	5	4
10	9	5	9	6	9	7	10
7	6	0	7	3	4	2	9
10	8	7	8	6	8	7	9
5	6	7	5	4	0	5	9

1. Harry had 8 pennies in his pocket when he left home. When he came back, he had only 6 pennies in his pocket. How many pennies had he lost?
2. Mrs. Brown bought 10 oranges. Seven oranges were eaten for breakfast. How many oranges were left?
3. Jack had 9 pencils. He gave away 4. Jack had . . . pencils left.

(Take away — subtraction — group 2)

Review

Can you do these without help?

1. Fred has 4¢. He wants to buy a 9¢ top. Fred needs . . . ¢.
2. Mary is 8 years old. Jane is 5. How much older is Mary than Jane?
3. Charles had 11 marbles. He lost 8 marbles. He then had . . . marbles.
4. What month is it now?
5. What date is it today?
6. How many years old are you?
7. Frank spent 3¢ Monday, 4¢ Tuesday, 3¢ Wednesday. He spent how much?
8. Mable had 13 paper dolls. She gave Jean 4 and Rose 5. She had . . . left.

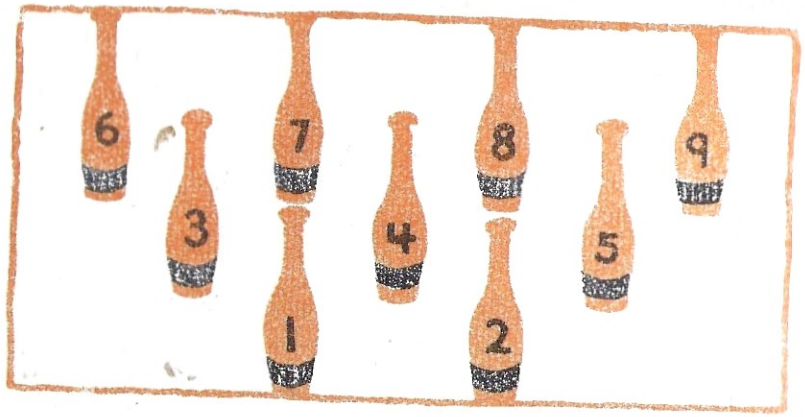
Write the missing numbers:

8	8	7	4	9	4	5	7
?	?	3	?	?	2	3	1
7	6	?	3	7	?	?	?

6 and 3 and 3 make . . . .

2 and 5 and 3 make . . . .

PART II—GRADE 2A



Ask your teacher how to play ninepins. Each one has two trials.

The one who knocks down the most pins wins the game.

1. Jack knocked down 8 and then knocked down 2. His score was . . .
2. Fred knocked down 9 and 3 and got . . . .
3. For knocking down 6 and 4 you get . . . .
4. For knocking down 8 and 3 you get . . . .
5. For knocking down 9 and 4 you get . . . .

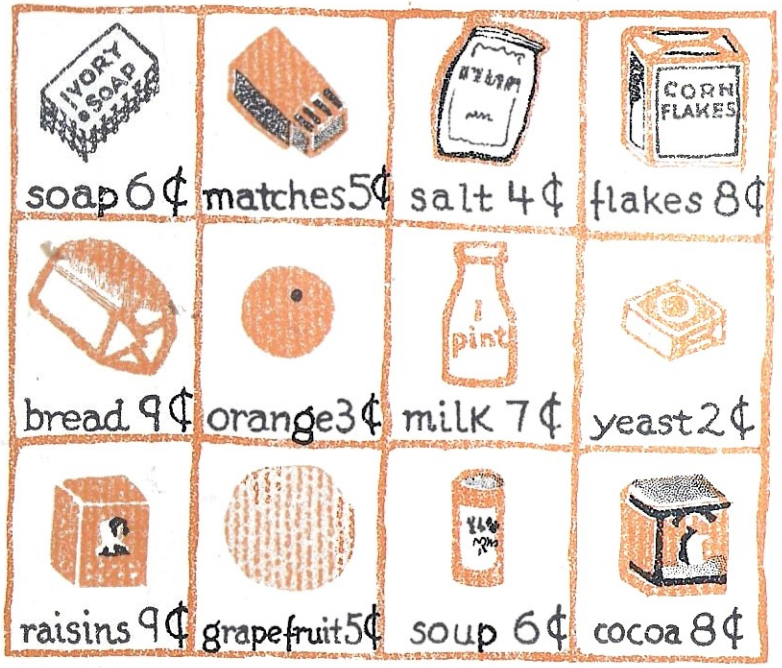
To the Teacher. — The combinations in group 3 are new. The children should be taught to refer to the combinations with their answers given on page 75 to find the correct numbers to place in the blanks above. This will help to eliminate finger counting.

(Addition — group 3)

6. Ted knocked down 4 and 7. His score was . . . .
7. Jim knocked down 9 and 9. His score was . . . .
8. Sally knocked down 9 and 2. Her score was . . . .
9. Dorothy knocked down 4 and 8. Her score was . . . .
10. Jean knocked down 8 and 8. Her score was . . . .
11. Harry knocked down 6 and 0. His score was . . . .
12. Which child won the game?

8	9	8	9	6	7	8	9
2	2	3	3	4	4	4	4
10	11	11	12	10	11	12	13
6	7	8	9	6	7	8	9
6	4	8	9	0	0	0	0
12	11	16	18	6	7	8	9

(Addition — introduction to group 3)



1. How much money must you pay for an orange and cocoa?
2. A bar of soap and soup cost . . . ¢.
3. An orange and a loaf of bread cost . . . ¢.

2	2	3	3	4	4	4	4
8	9	8	9	6	7	8	9
10	11	11	12	10	11	12	13

(Addition—group 3—reverse)

Play that you are a clerk in a grocery store.

Tell how much money you would charge for:

1. A box of cocoa and a box of corn flakes.
2. A yeast cake and a box of raisins.
3. A bag of salt and a bar of soap.
4. A box of cocoa and an orange.
5. A bag of salt and a box of raisins.
6. An orange and a pint of milk.
7. A box of raisins and a loaf of bread.
8. A yeast cake and a box of cocoa.
9. A can of soup and a yeast cake.
10. A bag of salt and a pint of milk.
11. A yeast cake and a pint of milk.

6	7	8	9	2	2	8	9
6	7	8	9	8	9	3	3
12	14	16	18	10	11	11	12

(Addition—group 3)

Timed Test

Can you add the numbers below?
Do it without writing the answers.
Tomorrow try to do it in 3 minutes:

9	7	6	9	7	9	8	7
3	0	6	2	7	4	3	4
8	4	3	4	3	4	9	2
8	8	8	6	9	9	0	9
4	0	8	5	7	3	4	4
7	8	4	4	3	6	3	0

1. Mary bought a doll for 9¢ and a doll dress for 4¢. Both things cost . . . ¢.
2. Harry bought a teddy bear for 8¢ and a wagon for 8¢. How much did both cost?
3. Sally bought a set of dishes for 9¢ and a candle for 3¢. She paid . . .¢ for both.

To the Teacher.—A permanent chart of addition, group 3, may now be made for constant reference except when testing. See page 133 for addition, group 3.

(Addition—group 3)

Spending Some Money and Having Some Left

Tell how much money you have left if:

1. You have 10¢ and buy a yeast cake for 2¢.
2. You have 12¢ and buy a bar of soap for 9¢.
3. You have 11¢ and buy a pint of milk for 7¢.
4. You have 12¢ and buy a bag of salt for 4¢.
5. You have 11¢ and buy an orange for 3¢.
6. You have 13¢ and buy a loaf of bread for 9¢.
7. You have 10¢ and buy a bag of salt for 4¢.

12	10	13	12	10	11	11
9	4	9	4	2	7	3
3	6	4	8	8	4	8

(Take away—subtraction—group 3)

The teacher is showing number cards.

Tell how much better each child did on Tuesday.

Monday Jack had 8 right. Tuesday 10 right.
Monday Tom had 8 right. Tuesday 12 right.
Monday Helen had 7 right. Tuesday 11 right.
Monday Mary had 9 right. Tuesday 13 right.
Monday Jim had 9 right. Tuesday 12 right.

10	11	10	11	13	12	11	12
8	9	6	8	9	8	7	9
2	2	4	3	4	4	4	3

To the Teacher.—The corresponding addition combinations may be linked up with this work.

(Comparative subtraction—group 3)

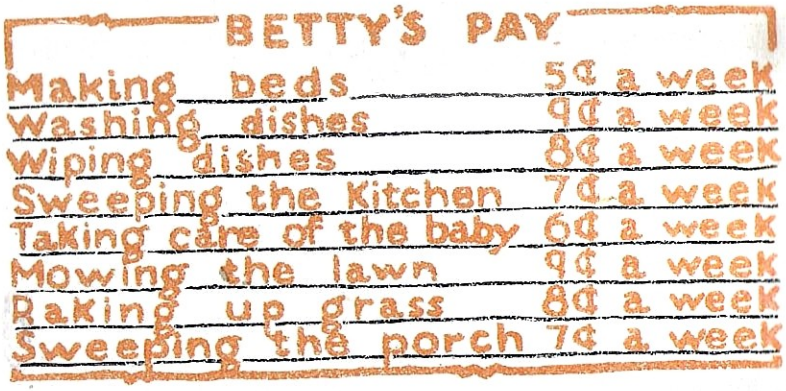
Lay a sheet of paper below the numbers and write the sums only.

Try to finish in two minutes:

2	3	4	3	7	4	5	7
7	4	5	6	2	3	4	3
9							
3	6	3	5	5	2	1	5
5	3	7	3	2	6	9	5
8	2	4	1	6	3	3	4
0	5	4	8	2	2	3	0

1. Harry and Jim played a game. Harry's score was 9; Jim's was 6. How much higher was Harry's score than Jim's?
2. Fred helps his mother on Saturday. Last Saturday he earned 7¢ and today he earned 3¢. How much did he earn on both days?

(Review—addition—group 1)


BETTY'S PAY
Making beds 5¢ a week
Washing dishes 9¢ a week
Wiping dishes 8¢ a week
Sweeping the kitchen 7¢ a week
Taking care of the baby 6¢ a week
Mowing the lawn 9¢ a week
Raking up grass 8¢ a week
Sweeping the porch 7¢ a week

Betty earns money each week.

Can you tell what she does?

How much is she paid for each thing?

For wiping dishes Betty gets . . . ¢.

For making beds Betty gets . . . ¢.

For both she gets . . . ¢ because 8¢ and 5¢ are . . . ¢.

How much does Betty get for:

1. Mowing the lawn and wiping dishes?
2. Mowing the lawn and each other thing?

5	5	5	5	6	6	7	6
6	7	8	9	7	8	8	9
11	12	13	14	13	14	15	15

Play you are Betty.

Tell how much you would earn during the week if you:

1. Wash the dishes and wipe the dishes.
2. Mow the lawn and sweep the porch.
3. Make your bed and wash the dishes.
4. Rake the grass and sweep the porch.
5. Take care of the baby and sweep the kitchen.
6. Make your bed and wipe the dishes.
7. Take care of the baby and wipe the dishes.
8. Make your bed and sweep the porch.
9. Take care of the baby and wash the dishes.

7	8	9	7	8	8	9	9
5	5	5	6	6	7	7	8
12	13	14	13	14	15	16	17

To the Teacher.—The combinations in group 4 are new. The children should be taught to refer to the combinations with their answers given at the bottom of this page to obtain the correct answers to the nine problems above.

The Circus Parade

The children want to go to the circus. It costs 15¢ to go to the circus.

Tell how many more cents each of these children will need to go to the circus:

1. Harry has 8¢. 2. Fred has 9¢.

There are to be 11 elephants. Six of them are at the front of the parade. How many will come later?

Make some circus problems about these facts:

5	5	5	5	6	6	6	7	8
?	?	?	?	?	?	?	?	?
11	12	13	14	13	14	15	15	17

(Additive subtraction—group 4)

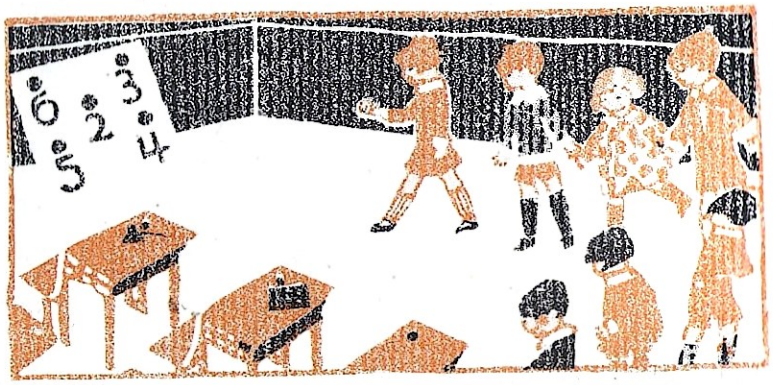
Lay a sheet of paper below the numbers and write the sums only.

Try to finish in 2 minutes:

5	6	5	9	8	9	7	8
9	8	7	5	6	7	6	5
14	14	12	14	14	16	13	13
6	7	8	6	8	5	7	6
9	5	7	5	9	6	9	7
15	12	15	11	17	11	16	13
9	7	9	5	9	9	4	8
6	8	8	8	9	4	7	3
15	15	17	13	18	13	11	11

1. Mary is 12 years old. Helen is 9. How much older is Mary than Helen?
2. Jack lives 11 blocks from school. Jim lives 8 blocks from school. How much farther does Jack live than Jim?
3. 9 and . . . are 13. 7 and . . . are 13.

(Subtraction—group 3)



Each child has three trials.

When he misses a hook, he puts a 0 in his score.

The one who has the highest score at the end of the game wins.

Tell which child won in this game. (To find Jack's total score—think 5 and 3 are 8. Then think 8 and 4 are 12.)

Jack	Helen	Mary	Tom	Jim	Sally
5	3	5	5	6	4
3	0	4	0	3	3
4	6	2	6	4	0

(Column addition—all groups)

Other children made these scores. Tell which child has the highest score.

Dorothy	Sam	Fred	Harry	Dick	Jean
6	0	2	6	5	0
3	3	6	4	2	4
5	6	4	0	6	5

See how quickly you can add these numbers. Add up. To check, add down:

5	6	8	7	5	4	3	2
4	3	1	2	3	5	6	4
3	5	6	4	6	4	9	9
6	5	4	3	4	2	3	2
2	2	5	3	3	7	6	5
8	7	9	4	4	8	7	8
3	5	8	4	5	4	3	4
4	3	1	4	1	8	6	9
5	8	4	9	6	0	8	0

(Column addition—all groups)

Which animal do you think will win?
Here are their scores so far:

dog-14	rabbit-9
kitten-8	fox-17
squirrel-15	

1. The squirrel's score is . . . greater than the kitten's.
2. The fox's score is . . . greater than the rabbit's.
3. The dog's score is . . . greater than the kitten's.
4. The . . . score is greater than the dog's.

5. The dog's score is . . . greater than the rabbit's.
6. The kitten's score is . . . less than the fox's score.
7. The kitten's score is . . . less than the squirrel's score.
8. The rabbit's score is . . . less than the fox's score.
9. The kitten's score is . . . less than the dog's score.
10. The rabbit's score is . . . less than the squirrel's score.
11. The kitten's score is . . . less than the rabbit's score.
12. The rabbit's score is . . . less than the dog's score.
13. 15 is . . . greater than 7.
14. 16 is . . . greater than 9.
15. 7 is . . . less than 14.
16. 8 is . . . less than 17.

(Meaning of *greater* and *less* — group 4)

Did you ever feed the monkeys?
What do they like to eat?
These children are feeding the monkeys peanuts.

1. Mary had 15 peanuts. She has fed the monkeys 8 peanuts. She has . . . left.
2. Jack has fed the monkeys 9 peanuts. He still has 7 in his bag. Jack had . . . peanuts in his bag at first.
3. Tom has fed the monkeys 8 peanuts. He still has 6 in his bag. Tom had . . . peanuts in his bag at first.

Tell how many peanuts each of these children had in his bag at first:

1. Fred has given away 9 and has 6 left.
2. Jim has given away 8 and has 8 left.
3. Betty has given away 7 and has 6 left.
4. Sam has given away 9 and has 9 left.
5. Helen has given away 5 and has 8 left.
6. Ted has given away 9 and has 4 left.
7. Frank has given away 5 and has 6 left.
8. Marion has given away 8 and has 4 left.
9. Harry has given away 9 and has 5 left.
10. Jean has given away 5 and has 7 left.

Tell how many things are left if you:

1. Have 17 peanuts and eat 8.
2. Have 16 pieces of candy and give away 9.
3. Have 15 apples and give away 7.
4. Have 14 marbles and lose 8.
5. Have 15 pennies and spend 9.
6. Have 14 eggs and use 5 for a cake.

Gathering Apples

1. Jack had 10 apples in his basket. He picked up 2 more apples. Jack then had . . . apples in his basket.
2. Mary had 12 apples in her basket. She picked up 3 more apples. Then Mary had . . . apples in her basket.

11	12	13	12	14	15
4	2	2	5	2	2
15	14	15	17	16	17
13	11	12	11	14	11
3	6	3	7	4	7
16	17	15	18	18	18

(Addition — group 1)

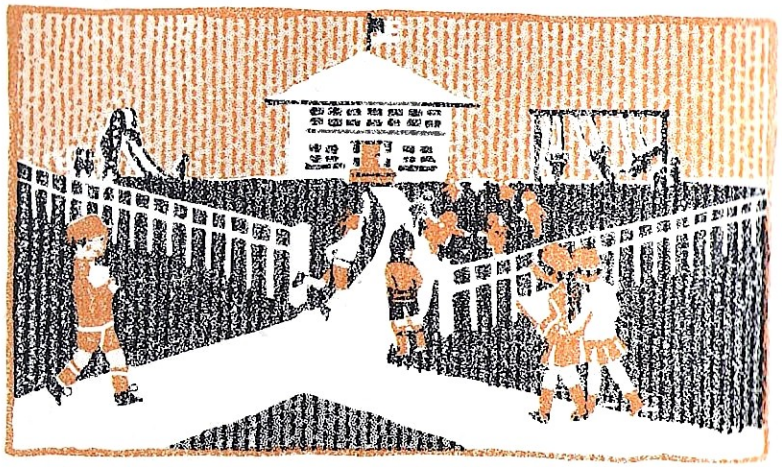
Copy these numbers and put in the missing numbers:

8	6	5	4	2	9	4
?	?	?	?	?	?	?
12	10	13	11	13	18	11
?	?	?	?	?	?	?
3	7	9	8	9	4	7
12	14	13	13	12	10	11

12	23	24	25	22	21
?	?	?	?	?	?
19	27	26	29	27	21
14	13	12	17	15	14
?	?	?	?	?	?
17	19	18	19	17	19

1. Tom had 18¢. He spent 9¢ for a toy. Did he have enough money left to buy an ice cream cone for 10¢?
2. Mary had 13¢. She spent 8¢ for a book. Did she have enough money left to buy a stick of candy for 5¢?

(Group 4)



Do you live far from school?

How many blocks do you live from school?

Some children live far from school.

Other children live near the school.

1. Mary lives 8 blocks from school. Jane lives 6 blocks. Mary lives . . . blocks farther than Jane.
2. Tom lives 5 blocks from school. Jack lives 9 blocks. Jack lives . . . blocks farther than Tom.

(Meaning of *nearer* and *farther*)

3. Dick lives 10 blocks from school. Harry lives 7 blocks. Dick lives . . . blocks farther from school than Harry.
4. Helen lives 8 blocks from school. Jean lives 5 blocks from school. Jean lives . . . blocks nearer school than Helen.
5. Sally lives 11 blocks from school. Jane lives 6 blocks from school. Jane lives . . . blocks nearer school than Sally.
6. Tom lives 5 blocks from school. Dick lives 10 blocks from school. Tom lives . . . blocks nearer school than Dick.
7. Jim lives 4 blocks from school. Sally lives 11 blocks from school. Jim lives . . . blocks nearer school than Sally.
8. Jack lives 9 blocks from school. Jim lives 4 blocks from school. Jim lives . . . blocks nearer school than Jack.
9. 15 blocks is . . . blocks more than 8 blocks.

(*Nearer* and *farther*)

Do you save your money?

These children have been saving their money.

They want to buy some toys.

1. Jack has saved 8¢. He wants to buy a knife. He needs . . . cents more to buy the knife.
2. Harry has saved 7¢. He wants to buy a kite. He needs . . . cents more to buy the kite.
3. Mary has saved 7¢. She wants to buy a doll chair. She needs . . . cents more.

4. Jim has saved 7¢. He wants to buy a knife. How much more money does he need to buy the knife?
5. Sally's mother gave her 5¢. Sally wants to buy a doll. How much more money does she need to buy the doll?
6. Ted earned 5¢. He wants to buy a drum. How much more money does he need to buy the drum?
7. Fred wants to buy a kite. He has saved 9¢. How much more money does Fred need to buy the kite?

5	5	5	5	6	6	6	7
6	7	8	9	7	8	9	9
11	12	13	14	13	14	15	16

8	6	7	8	9	7	8	9
9	5	5	5	5	6	6	6
17	11	12	13	14	13	14	15

(Additive subtraction—group 4)

Saving Money

1. You have 8¢. 6 ¢ more make 14¢.
2. You have 6¢. . . . ¢ more make 15¢.
3. You have 6¢. . . . ¢ more make 11¢.
4. You have 8¢. . . . ¢ more make 13¢.
5. You have 9¢. . . . ¢ more make 17¢.
6. You have 7¢. . . . ¢ more make 16¢.
7. You have 8¢. . . . ¢ more make 15¢.
8. You have 6¢. . . . ¢ more make 13¢.
9. You have 8¢. . . . ¢ more make 17¢.
10. You have 9¢. . . . ¢ more make 16¢.
11. You have 6¢. . . . ¢ more make 14¢.
12. You have 5¢. . . . ¢ more make 13¢.

Tell the missing numbers:

5	7	6	7	7	6	5	6
?	?	?	?	?	?	?	?
11	15	13	16	15	15	13	14

8	5	7	9	8	3	8	9
?	?	?	?	?	?	?	?
17	14	13	15	14	11	15	16

(Additive subtraction—group 4)

Timed Test

See if you can write the answers to these combinations in two minutes:

5	5	6	7	5	8	6	5
6	9	8	9	7	9	7	8

6	7	6	9	8	9	7	9
9	8	5	5	6	7	5	8

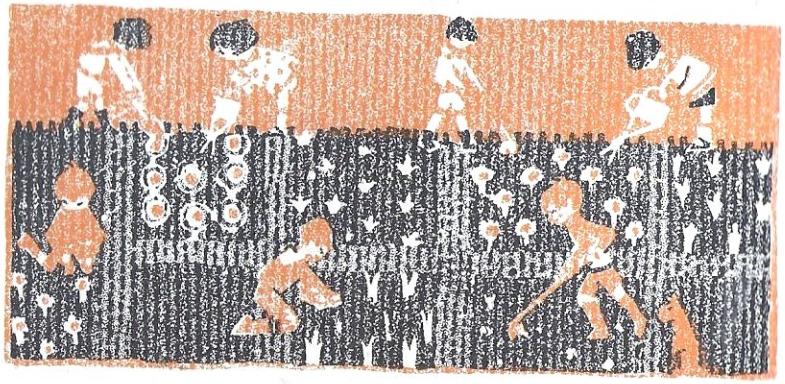
7	8	4	9	4	7	9	9
6	5	7	3	9	4	0	9

Tell what number is left if you take the lower number from the upper number. Say them all in 1½ minutes:

11	14	16	12	17	13	14	15
6	9	7	5	8	7	8	7

18	13	11	17	15	14	15	12
9	8	7	9	8	6	9	7

(Addition and subtraction—group 4)



Did you ever have a garden?
Where was your garden?
What did you plant in your garden?
These children have school gardens.

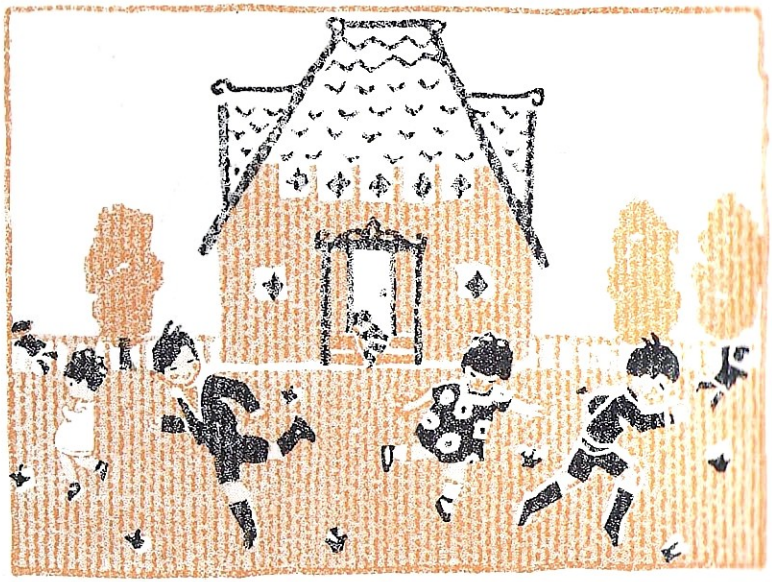
1. Mary planted 4 rows of beans and 2 rows of radishes. She has . . . more rows of beans than of radishes.
2. Jack planted 3 rows of beans and 5 rows of peas. He has . . . more rows of peas than of beans.
3. Tom planted 1 row of radishes and 4 rows of beans. He has . . . more rows of beans than of radishes.

(Review)

4. Tom has worked 7 days in his garden. Jack has worked 9 days in his garden. Jack has worked . . . days longer in his garden than Tom.
5. Mary has worked 10 days in her garden. Tom has worked 7 days. Mary has worked . . . days longer in her garden than Tom.
6. Jim has worked 6 days in his garden. Sally has worked 8 days. Sally has worked . . . days longer than Jim.
7. Mary has worked 10 days. Helen has worked 4 days. Mary has worked . . . days longer than Helen.
8. Dick has worked 7 days. Jean has worked 11 days. Jean has worked . . . days longer than Dick.
9. Dick paid 10¢ for his seeds. Tom paid 8¢ for his seeds. Dick paid . . . ¢ more for his seeds than Tom.

(Meaning of *longer*—review)

Playing Hide-and-Seek



See the children playing hide-and-seek.

The boy on the steps is counting.

He is counting ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, one hundred.

How far can you count?

Read these numbers:

1	2	3	4	5	6	7	8	9	10
10	20	30	40	50	60	70	80	90	100

Things to Do

1. Write the numbers to 100. Begin 5-10-15-20 and so on.
2. Write the numbers to 100. Begin 1-2-3-4-5-6 and so on.
3. Count the number of seats in your room.
4. See how quickly you can find these pages in this book: page 43; page 38; page 59; page 87; page 76; page 63; page 99.
5. *a.* Page 67 comes between page 60 and page 70.
   b. Page 45 comes between page . . . and page . . . .
   c. Page 32 comes between page . . . and page . . . .
6. Tell the missing numbers:

a. . . . , . . . , 24, 25.
b. 64, 65, . . . , ...
c. . . . , 71, . . . , 73.
d. 55, 56, . . . , ...
e. 34, . . . , 36, . . . , 38.
f. 38, . . . , . . . , 41.
g. . . . , 98, . . . , 100.

Things to Do

1. Tell which you would rather have:
   - *a.* 45 marbles or 38 marbles.
   - *b.* 75 cents or 90 cents.
   - *c.* 27 pieces of candy or 19 pieces of candy.
   - *d.* 30 beads or 28 beads.
   - *e.* 17 cookies or 21 cookies.
   - *f.* 85 pennies or 92 pennies.
   - *g.* 69 cards or 71 cards.
2. Copy the numbers which are smaller than 50 in one column.
3. Copy the numbers which are larger than 50 in another column.

35	49	77	65	62
46	98	24	10	21
87	81	88	48	90
58	79	43	43	13

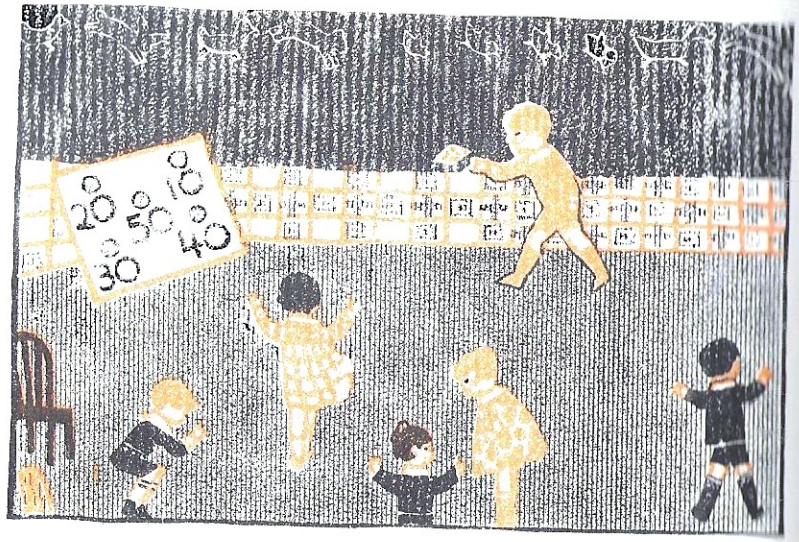
4. How many numbers have you in each column?
5. You should have ten numbers in each.

Adding 3 Numbers

Write the sums. Add down:

4	2	6	3	8	7	5	5
3	8	3	4	1	2	4	3
5	5	9	7	5	8	7	6
2	4	3	8	6	4	2	3
5	4	6	2	3	3	4	5
9	8	7	6	8	9	6	5
3	2	4	6	3	7	6	5
5	3	3	2	3	1	3	4
8	9	8	8	9	8	5	9

1. Harry earned 7¢. His father gave him 9¢. Did he have enough money to buy an engine costing 15¢?
2. Mary bought a ball for 5¢, a top for 4¢, and a doll for 8¢. How much did she spend altogether?
3. Can you make up another number story?



Can you play the bean bag game?

Each child has three bean bags.

Billy just threw his bean bags through these holes—20, 30, 40.

To find his total score we write it this way and add:

$$\begin{array}{r} 20 \\ 30 \\ 40 \\ \hline 90 \end{array}$$

Billy's total score is 90. Why?

These are the scores made by some children. Find their total scores.

Who has the highest total score?

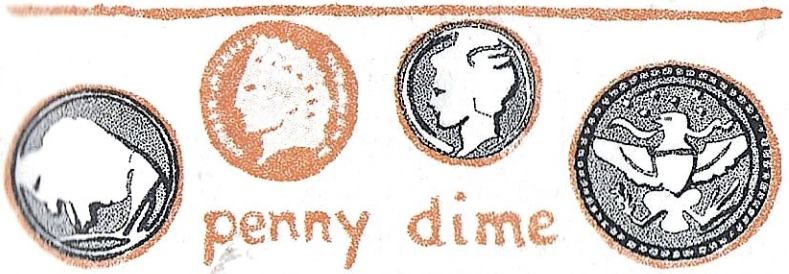
Helen	Jim	Frank	Harry	Fred
20	30	40	20	30
10	10	20	10	20
40	50	20	20	20

Mary	Tom	Dorothy	Jean	Bob
50	50	40	40	30
30	30	20	50	40
20	30	30	30	20

1. Mary spent 20¢ for a game and 10¢ for a book. How much did she spend?
2. It took Helen 20 minutes to wash the dishes and 20 minutes to make the beds. It took her . . . minutes to do both things.
3. 20 books on one shelf and 30 books on another shelf make . . . books on both.

1. Jack has a nickel in his hand. Tom has five pennies in his hands. Which boy has more money—Jack or Tom?
2. A nickel is the same as . . . cents.
3. A dime is the same as . . . cents.
4. A dime is the same as . . . nickels.
5. Helen has 2 nickels or . . . cents.
6. Mary has a dime and a nickel or . . . cents.
7. 14 cents make 1 dime and 4 cents.
8. 16 cents make one dime and . . . cents.

(Value of a nickel and a dime)



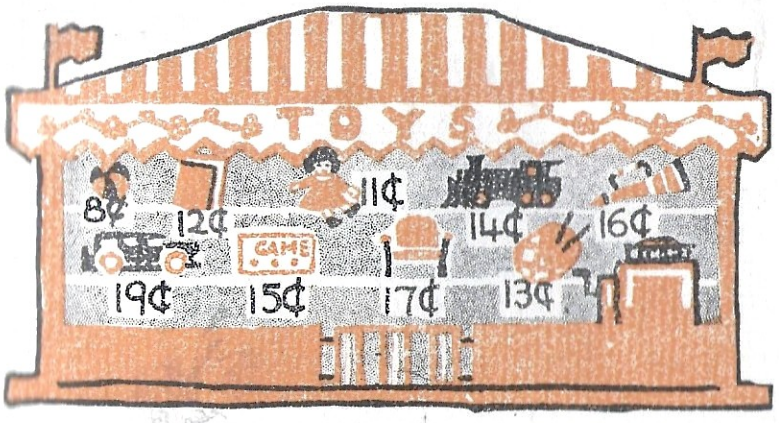
1. 13 cents make . . . dime and . . . cents.
2. 22 cents make . . . dimes and . . . cents.
3. 30 cents make . . . dimes.
4. 35 cents make . . . dimes and . . . nickel.
5. 32 cents make . . . dimes and . . . cents.
6. 2 dimes make . . . cents.
7. 1 dime and 2 nickels make . . . cents.
8. 2 dimes and 3 cents make . . . cents.
9. 1 dime and 7 cents make . . . cents.
10. 2 nickels and 4 cents make . . . cents.
11. A quarter is the same as . . . cents.
12. A quarter is the same as . . . dimes and . . . nickel.

Tell which you would rather have:

1. Two nickels or 1 dime.
2. Three nickels or 16 pennies.
3. Two dimes or 3 nickels.
4. A dime and a nickel or 14 pennies.
5. 24 pennies or a quarter.
6. Two dimes or 19 pennies.

Tell how much money each child had left:

1. Sally had 15¢ and spent a nickel.
2. Tom had 20¢ and spent a dime.
3. Fred had 25¢ and spent a nickel.
4. Harry had 20¢ and spent a nickel.
5. Betty had 25¢ and spent 2 dimes.
6. Mary had a dime and spent 5¢.
7. Dick had a quarter and spent 10¢.
8. Sam had a dime and spent 10¢.
9. Helen had a quarter and spent 15¢.
10. Jean had a quarter and spent 25¢.



Play you are a clerk in this store.

How much change would you give when:

1. Jack buys a ball and gives you a dime?
2. Tom buys a book and gives you a dime and a nickel?
3. Helen buys a doll and gives you a nickel and a dime?
4. Jim buys a drum and gives you a dime and a nickel?
5. Mary buys a doll chair and gives you two dimes?
6. What two things cost 20¢?

(Using nickels and dimes — making change)

These children are getting ready for a school Christmas party.

All the first and second grade children are coming.

42 first grade children are coming.

45 second grade children are coming.

How many children will there be at the party? We find out like this:

$$\begin{array}{r} 42 \\ 45 \\ \hline 87 \end{array}$$

There will be 87 children at the party.

Your teacher will tell you why.

(Addition of two-place numbers — no carrying)

1. Jack bought a book for 12¢ and a game for 15¢. For both he paid . . . ¢.
   Write it this way:
   $$\begin{array}{r} 12¢ \\ 15¢ \\ \hline ?? \end{array}$$
2. Mary paid 22¢ for a doll and 16¢ for a set of dishes. For both she paid . . . ¢.
3. Helen bought a doll bed for 24¢ and a game for 20¢. How much did she pay for both?
4. Tom bought a drum for 15¢ and an engine for 32¢. He paid . . . ¢ for both.

Add these numbers:

34	27	45	36	14	21	26
23	12	21	23	35	46	12
15	37	49	16	50	19	43
23	11	20	22	43	20	50

(Addition of two-place numbers)

Adding Large Numbers

1. There are 44 children in the first grade. There are 43 children in the second grade. In the first and second grades there are . . . children.
2. Jack has 25 marbles in one bag. He has 14 in another bag. How many marbles has Jack in both bags?
3. At a school picnic the children ate 21 meat sandwiches and 24 cheese sandwiches. How many sandwiches were eaten altogether?
4. There are 34 books on the first shelf of the bookcase. There are 25 books on the second shelf. How many books are there on both?
5. Jack was given two boxes of blocks for Christmas. There were 12 blocks in one box and 24 blocks in the other box. How many blocks did Jack have altogether?

(Addition of two-place numbers)

1. Jim had 28¢. He bought a drum for 15¢. He had . . . ¢ left. We find out like this:

$$\begin{array}{r} 28¢ \\ 15¢ \\ \hline 13¢ \end{array}$$

Jim had 13¢ left. Your teacher will show you how to find out.

2. Mary had 37¢. She bought a doll for 22¢. She had . . . ¢ left. Write it this way:

$$\begin{array}{r} 37¢ \\ 22¢ \\ \hline ?? \end{array}$$

3. Harry had 46¢. He spent 32¢ for an engine. He had . . . ¢ left.
4. Tom had 59¢ in his bank. He took out 25¢. He had . . . ¢ left in his bank.

Tell how much you have left if:

5. You have 48¢ and spend 34¢.
6. You have 75¢ and spend 42¢.

(Subtraction of two-place numbers)

A Picnic

Where do you go for picnics?

What do you have to eat at a picnic?

The children in the picture have eaten.

1. There were 28 sandwiches and 24 were eaten. There were . . . sandwiches left.
2. There were 26 cookies and 22 were eaten. There were . . . cookies left.
3. They had 18 oranges and 15 were eaten. There were . . . oranges left.
4. They had 18 oranges and 12 bananas at the picnic. They had . . . more oranges than bananas.

(Subtraction of two-place numbers)

Tell what number is left if you take the lower numbers from the upper numbers:

45	88	49	56	47	59
32	43	37	41	35	46
77	58	65	29	49	57
63	42	24	19	20	32
59	48	65	87	86	58
35	28	33	46	70	46

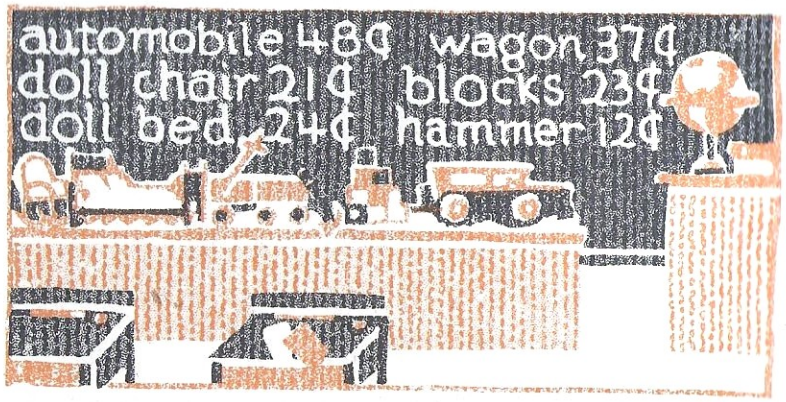
1. Helen had 25¢. She spent 12 cents. How many cents did she have left?
2. Mrs. Brown made 36 cookies. 16 cookies were eaten for lunch. How many cookies did she have left?
3. Tom's father gave him 35¢. Tom earned 14¢. How much money did Tom have?
4. There were 16 children invited to the picnic. Only 12 children came. How many children stayed at home?

1. An elephant costs 48¢. A dog costs 25¢. How much more does an elephant cost than a dog?
2. Jack wants to buy a teddy bear which costs 37¢. Jack has only 15¢. How much more money does Jack need to buy the teddy bear?
3. One horse costs 24¢. Harry wants to buy two horses. How much will he have to pay for two horses?
4. Tom wants to buy a cow for 23¢ and a horse for 24¢. How much will both cost him?

(Addition and subtraction of two-place numbers—review)

5. A teddy bear costs 21¢. A kitten costs 37¢. How much more does a kitten cost than a teddy bear?
6. Tom had 55¢. He bought a horse for 24¢. How much money did he have left?
7. Mary bought a sheep for 15¢ and an elephant for 48¢. How much more did she pay for an elephant than for a sheep?
8. Jim has 22¢. He wants to buy a teddy bear for 37¢. How much more money does he need to buy the teddy bear?
9. Marion's mother gave her 35¢. Marion bought a kitten for 21¢. How much money did she have left?
10. A teddy bear costs 37¢. An elephant costs 48¢. How much more does an elephant cost than a teddy bear?
11. Make up another problem.

(Review)



The children had a toy sale.

They brought some of their toys to school and sold them.

1. How much did a doll bed sell for?
2. A set of blocks sold for . . . ¢.
3. A doll chair sold for . . . ¢.
4. A set of blocks sold for more than a . . . .
5. A hammer sold for . . . ¢.
6. A hammer sold for less than a . . . .
7. An automobile sold for . . . ¢.
8. A wagon sold for . . . ¢.

1. A hammer sold for . . . ¢ less than a wagon.
2. A doll bed sold for . . . ¢ less than an automobile.
3. A hammer sold for . . . ¢ less than a set of blocks.
4. A wagon sold for . . . ¢ more than a doll chair.
5. A wagon and a hammer together sold for . . . ¢.
6. An automobile sold for . . . ¢ more than a wagon.
7. A set of blocks sold for . . . ¢ less than a wagon.
8. A doll chair sold for . . . ¢ less than an automobile.
9. A hammer sold for . . . ¢ less than an automobile.
10. A doll bed sold for . . . ¢ more than a hammer.

(Meaning of *more* and *less* — two-place numbers)

Do you know any boys who sell papers?
Where do they sell their papers?

These are the number of papers some boys sold during the day:

Jack sold	48	Fred sold	59
Harry sold	57	Dick sold	38
Tom sold	46	Sam sold	45
Jim sold	41	Ted sold	32

1. Fred sold . . . more papers than Dick.
2. Jack sold . . . more papers than Ted.
3. Fred sold . . . more papers than Jim.

4. Harry sold . . . more papers than Sam.
5. Sam sold . . . more papers than Ted.
6. Tom sold . . . more papers than Ted.
7. Sam sold . . . less papers than Fred.
8. Dick sold . . . less papers than Jack.
9. Jim sold . . . less papers than Harry.
10. Ted sold . . . less papers than Fred.
11. Tom sold . . . less papers than Harry.
12. Dick sold . . . less papers than Fred.
13. Jim sold . . . less papers than Jack.
14. Sam sold . . . less papers than Harry.
15. Jim and Ted together sold . . . papers.
16. Sam and Ted together sold . . . papers.
17. Tom and Jim together sold . . . papers.
18. Harry and Ted together sold . . . papers.
19. Ted and Tom together sold . . . papers.
20. Jim and Ted together sold . . . papers.
21. Sam and Jim together sold . . . papers.
22. Dick and Jim together sold . . . papers.
23. Who sold the most papers?

Mary went to the fruit store.
She asked for a dozen oranges.
The man counted out 12 oranges.
Helen went to the grocery store.
She asked for a dozen eggs.
The man counted out . . . eggs.
Fred bought a dozen lemons.
There were . . . lemons in his bag.
Tell some other things which we buy by the dozen.

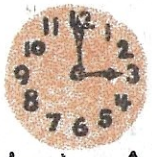
(Meaning of *dozen*)

Do you like milk to drink?
Why is milk good for boys and girls?
Betty's mother buys a quart and a pint of milk every day.
Point to the quart bottle of milk.
Point to the pint bottle of milk.
A quart bottle of milk will make . . . pint bottles of milk.
Jack drank a pint of milk and Betty drank a pint of milk.
Jack and Betty drank 2 pints of milk or . . . quart.

(Acquaintance with *quarts* and *pints*)

What time do you go to bed?
It is Jack's bedtime.
What time does Jack go to bed?
Can you tell by this clock?

Put your finger on the long hand.
Put your finger on the short hand.
To what number does the long hand point?
To what number is the short hand pointing?
Jack goes to bed at 8 o'clock.


clock A

clock B

clock C

1. In clock A the long hand is pointing to . . . .
2. In clock A the short hand is pointing to . . . .
3. It is . . . o'clock by clock A.
4. In clock B the long hand is pointing to . . . .
5. In clock B the short hand is pointing to . . . .
6. It is . . . o'clock by clock B.
7. What number is the long hand in clock C pointing to?
8. What number is the short hand in clock C pointing to?
9. It is . . . o'clock by clock C.

clock A

clock B

Look at these two clocks.

It is 4 o'clock by both clocks.

Read the numbers on clock B.

Read these numbers:

I	II	III	IV	V	VI
1	2	3	4	5	6

VII	VIII	IX	X	XI	XII
7	8	9	10	11	12

What time is it by these clocks?

Read these: IV, XI, III, VI, XII, II, V, VII, IX, I, VIII, X.

1. Draw three clock faces on your paper, like these:

clock A

clock B

clock C

2. Put the hands in clock A so that it will say 5 o'clock.
3. Make clock B say 7 o'clock.
4. Make clock C say 1 o'clock.
5. Make three clock faces on your paper, like these:

clock D

clock E

clock F

6. Make clock D say 4 o'clock.
7. Make clock E say 10 o'clock.
8. Make clock F say 2 o'clock.

Addition

Group 1 (introduced between pages 27 and 36):

2	3	4	5	6	7	8	9
1	1	1	1	1	1	1	1
—	—	—	—	—	—	—	—
1	1	1	1	1	1	1	1
2	3	4	5	6	7	8	9
—	—	—	—	—	—	—	—
2	2	2	2	2	3	4	5
2	3	4	5	6	3	4	5
—	—	—	—	—	—	—	—
1	2	4	5	6	3	9	0
1	3	2	2	2	2	0	9
—	—	—	—	—	—	—	—
1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—
0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8
—	—	—	—	—	—	—	—

Group 1 (introduced between pages 37 and 56):

3	3	4	4	5	5	6	6
1	2	1	3	1	4	1	5
—	—	—	—	—	—	—	—
2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—
6	7	7	8	8	6	8	10
2	2	5	2	6	3	4	5
—	—	—	—	—	—	—	—
7	7	8	8	9	9	10	10
1	6	1	7	1	8	1	9
—	—	—	—	—	—	—	—
2	1	4	5	5	6	6	
1	0	2	2	3	2	4	
—	—	—	—	—	—	—	

Addition

Group 2 (introduced between pages 57 and 64):

4	5	6	7	4	7
3	3	3	3	5	2
3	3	3	3	5	2
4	5	6	7	4	7

Subtraction

Group 2 (introduced between pages 65 and 71):

9	9	7	7	8	8
2	7	3	4	3	5
9	9	10	10	9	9
3	6	7	3	5	4

Group 3 (introduced between pages 74 and 78):

6	8	9	8	7	9	9	8
4	2	2	3	4	3	4	4
4	2	2	3	4	3	4	4
6	8	9	8	7	9	9	8
6	8	9					
6	8	8					

Subtraction

Group 3 (introduced between pages 79 and 80):

10	10	10	10	11	11	11
6	4	8	2	9	2	8
11	11	11	12	12	12	
3	7	4	6	9	9	
12	12	13	13	16	18	
8	4	9	4	8	9	

Addition

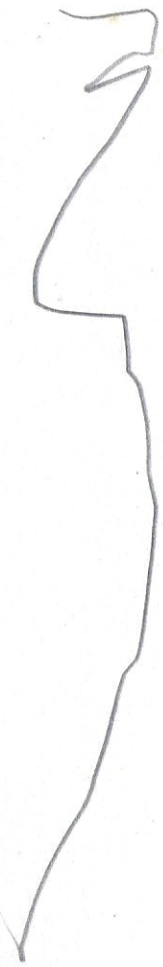
Group 4 (introduced between pages 81 and 85):

5	8	7	9	5	9	6	7
6	6	5	6	9	5	7	6
6	5	8	8	9	7	9	8
8	7	7	5	7	9	8	9
6	7	5	6				
5	8	8	9				

Subtraction

Group 4 (introduced between pages 88 and 99):

11	14	12	15	14	14	13	13
6	6	5	9	9	5	7	6
14	12	15	13	16	16	17	17
8	7	7	5	9	7	9	8
11	15	13	15				
5	8	8	6				



1
2
3
4
5
6
7
8
9
0